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EXAMINER

KOVALICK, VINCENT E

ART UNIT

PAPER NUMBER

2673

DATE MAILED: 05/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/540,166

Applicant(s)

ROSENBERG

Examiner

Vincent E Kovalick

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-7, 10-15 and 18-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-7, 10-15 and 18-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Response to Amendment

1. This Office Action is in response to Applicant's Amendment dated March 18, 2003 to USPTO Office Action dated December 27, 2002. No changes have been made to the claims; Applicant's remarks have been reviewed and entered in the record.

Applicant's arguments filed March 18, 2003 have been fully considered but they are not persuasive. Regarding Applicant's argument that neither Dye '411 nor Dye '381 patents, alone or in combination describes or even suggests a display controller that facilitates identifying image data or portions of image data to be used to refresh a displayed image is not persuasive. Dye '411 teaches a display controller (Window Assembler) coupled to each of a plurality of memory control units, the said Window Assembler assembles video refresh data using a pointer-based (*marker*) display refresh list that is stored in the system memory and includes pointers which reference the video data (marked data locations in memory) for display. It being understood that the nature of the data in the marked memory locations could include modified image data.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 3, 5, 10, 12, 15 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dye (USP 6,002,411) taken with Dye (USP 6,173,381).

Relative to claims 3, 10 and 15, Dye **teaches** an integrated memory and graphics controller which includes improved data processing and graphical processing capabilities (col. 1, lines 7-10; col. 2, lines 28-67; col. 3, lines 1- 67; col. 4, lines 1-67 and col. 5, lines 1-63). Dye further **teaches** a system to refresh a display (col. 4, lines 42-44), the system comprising: a memory to store images of an image frame in a plurality of memory pages; a processor to perform drawing operations to generate the images for the image frame, the processor marking memory pages corresponding to regions of the image frame that have been updated(col. 4, lines 9-44); and a display controller in communication with the memory to access the image frame and to send only the marked memory pages of the image frame to the display to refresh the display (col. 9, lines 6-9 and 38-42; col. 10, lines 35-42 and col. 17, lines 7-14).

Dye ('411) **does not teach** updating regions of the image frame while performing the drawing operation.

Dye ('381) **teaches an** integrated memory and a graphics controller (col. 2, lines 34-67; col. 3, lines 1-67 and col. 4, lines 1-21); Dye ('318) further **teaches** updating regions of the image frame while performing the drawing operation (col. 14, lines 26-41).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate in the device as taught by Dye ('411) the feature as taught by Dye ('381) in order to include in the system the feature of updating the data of only those images in which a change was made, and updating the display refresh list to facilitate a display refresh including only the image data that has changed.

Regarding claims 5 and 12, it would have been obvious to a person of ordinary skill in the art at the time of the invention that the capacity of the memory pages would be sufficient to

accommodate the system data storage/processing, this would include a memory page size of four kilobytes if that is specified as a system requirement.

Relative to claims 21-22, Dye ('411) further **teaches** the system wherein the display controller sends the image frame one memory unit at a time to the display to refresh the display (col. 3, lines 63-67 and col. 4, lines 1-13 and 42-44).

It would have been obvious to a person of ordinary skill in the art at the time of the invention that with the means to select specific units of marked memory for display, the means could be structured and directed to select a defined quantity of data (e.g. a specific memory page) for transfer to be displayed.

4. Claims 4, 11, 18, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dye ('411) taken with Dye ('381) as applied to claims 3, 10 and 15 respectively in item 3 hereinabove, and further in view of Broemmelsiek (USP 5,574,836).

Relative to claims 4, 11, 18, 23 and 24, Dye ('411) taken with Dye ('381) **does not teach** said system wherein the image frame is divided into tiles representing two-dimensional regions of the image frame, each of the tiles is stored in one separate memory page.

Broemmelsiek **teaches** an interactive display apparatus (col. 3, lines 60-67 and col. 4, lines 1-49); Broemmelsiek further **teaches** said system wherein the image frame is divided into tiles representing two-dimensional regions of the image frame, each of the tiles is stored in one separate memory page (col. 4, lines 32-47).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate in the device as taught by Dye ('411) taken with (Dye ('381) the feature as taught by Broemmelsiek in order to facilitate special handling of image data representing two-dimensional regions of the image frame.

5. Claims 6, 13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dye ('411) taken with Dye ('381) as applied to claims 3, 10 and 15 respectively in item 3 hereinabove, and further in view of Forkey (USP 5,733,246).

Regarding claims 6, 13 and 19, Dye ('411) taken with Dye ('381) **does not teach** the said system wherein the image frame is represented by a configuration where color components of a pixel are deposited in contiguous memory locations.

Forkey **teaches** a viewing instrument that can obtain color images of dimly illuminated objects (col. 4, lines 37-67 and col. 5, lines 1-21); Forkey further **teaches** the said system wherein the image frame is represented by a configuration where color components of a pixel are deposited in contiguous memory locations (col. 6, lines 63-67 and col. 7, lines 1-8).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate in the device as taught by Dye ('411) taken with Dye ('381), the features as taught by Forkey in order to minimize color image processing time.

6. Claims 7, 14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dye ('411) taken with Dye ('381) as applied to claims 3, 10 and 15 respectively in item 3 hereinabove, and further in view of Drewry (USP 5,748,178).

Relative to claims 7, 14 and 20, Dye ('411) taken with Dye ('381) **does not teach** a system wherein the image frame is represented by a configuration where color components of a pixel are separated and deposited in multiple color planes.

Drewry **teaches** a digital video system and methods for efficient rendering of superimposed vector graphics (col. 2, lines 66-67; col. 3, lines 1-67 and col. 4, lines 1-4); Drewry further **teaches** a system wherein the image frame is represented by a configuration where color components of a pixel are separated and deposited in multiple color planes (col. 6, lines 12-22).

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It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate in the device as taught by Dye ('411) taken with Dye ('381) the features as taught by Drewry in order to minimize color image processing time.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

| | | |
|------------------|-----------|-----------------|
| U. S. Patent No. | 6,263,426 | Abdallah et al. |
| U. S. Patent No. | 6,008,823 | Rhoden et al. |
| U. S. Patent No. | 5,596,376 | Howe |
| U. S. Patent No. | 5,486,876 | Lew et al. |

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Responses

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent E Kovalick whose telephone number is 703 306-3020.


The examiner can normally be reached on Monday-Thursday 7:30- 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 703 305-4938. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9314 for regular communications and 703 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 306-0377.



Vincent E. Kovalick
May 22, 2003



BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600